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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,430	06/30/2003	Wolfgang Heikamp	037141.51861US	7164
23911	7590	08/12/2004	EXAMINER	
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			PHAM, MINH CHAU THI	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 08/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/608,430

Applicant(s)

HEIKAMP, WOLFGANG

Examiner

Minh-Chau T. Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/6/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Specification

The use of the trademark "Teflon" (specification page 3, line 15) has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

Claim 12 is objected to because of the following informalities: The use of the trademark "Teflon" has been noted in claim 12. It should be capitalized wherever it appears and be accompanied by the generic terminology. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bayerlein et al (6,153,098).

Bayerlein et al disclose a filter element for filtering a gas stream comprising at least one filter mat (col. 1, lines 36-44) positioned in the gas stream to which particles in the gas stream can adhere and be removed from the gas stream, wherein at least one

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filter mat comprises a plurality of layers of a filter material (col. 6, lines 31-39) and a membrane (col. 8, lines 64-65) disposed between the layers. Bayerlein et al further disclose the filter mat comprising a multi-layered of fiber glass fiber paper (col. 6, lines 31-39; col. 8, lines 54-58), the membrane can be TEFLON® (col. 8, lines 63-65), and the filter mat winding around a hollow cylinder and mounted on a perforate central tube (col. 2, lines 20-24) so that the gas stream flows radially through the filter element from the outside in and exits the filter element axially from the center of the cylindrical filter element. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a multi-layered filtration media as taught by Bayerlein et al to provide an improved apparatus for filtering fluid that is particularly useful for filtering lubrication oil or other fluids.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bayerlein et al (6,153,098), in view of either Cox et al (6,524,360 B2) or Benson et al (6,746,517 B2).

Claim 13 calls for the membrane including at least one layer of nanofiber material. Cox et al disclose a membrane for a filter media wherein the polymer fiber web layer(s) can be made from a variety of polymeric materials such as polypropylene, polyester, polyamide and polyethylene (col. 2, lines 52-55) wherein the fibers formed from the web having a diameter in the range of about 1 to 15 micrometers, preferably about 3 micrometers and the weight of the polymer fiber web is in the range of about 10 to about 100 g/m², preferably about 35 g/m² (col. 2, lines 57-61). Benson et al disclose the membrane for filter media can be formed with polymeric compositions in the form of

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fine fiber such as nanofibers in the form of filter webs or fibrous mats used in a unique improved filter structure (col. 2, lines 56-59). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide a membrane made of nanofiber such as polyamide as taught either by Cox et al or Benson et al in the filter apparatus of Baverlein et al since it is well known in the art that filter media made of nanofibers would enhance filtration performance characteristics.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kahlbaugh et al (5,238,474) disclose a filter arrangement.
- Kahlbaugh et al (5,423,892) disclose a filtration arrangement.
- Kahlbaugh et al (5,622,537) disclose a filtration arrangement.
- Kahlbaugh et al (5,762,669) disclose a filtration arrangement.
- Kahlbaugh et al (5,762,670) disclose a filtration arrangement.
- Kahlbaugh et al (5,792,227) disclose a filtration arrangement.
- Dudrey et al (5,797,973) disclose an air filtration arrangement.
- Kahlbaugh et al (6,019,809) disclose a filtration arrangement.
- Hollingsworth et al (6,146,436) disclose a cartridge filter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Chau T. Pham whose telephone number is (571) 272-1163. The examiner can normally be reached on Mon/Tues/Thur/Fri 7:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Minh-Chau Pham
Patent Examiner
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August 10, 2004